

**ABSTRACT OF THE DISCLOSURE**

A method is described for manufacturing non-volatile memory cells on a semiconductive substrate having active areas bounded by portions of an insulating layer. A thin layer of tunnel oxide is formed and a first layer of conductive material is then deposited. A plurality of floating gate regions are defined by forming stripes of shielding material only above pairs of alternated  
5 active areas. Spacers of a selective material are defined with respect to the shielding material and of small width at will in the shelter of the side walls of the stripes thus defined. A shielding material is also deposited on the active areas which lacked it. The formation of the floating gate is completed by leaving the definition of the distance between the floating gate regions to the spacers.